

Before the  
**Federal Communications Commission**  
Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding the Economic and Innovation	)	
Opportunities of Spectrum Through Incentive	)	GN Docket No 12-268
Actions	)	

The Federal Communications Commission (“FCC” or “Commission”) issued a Notice of Proposed Rulemaking (“NPRM”) in the above captioned proceeding in response to the legislation known as the “Middle Class Tax Relief and Job Creation Act of 2012” (“Spectrum Act”). It is the stated goal of the legislation and the Commission’s proposed rules to replace spectrum currently allotted for use by free over-the-air TV stations with wireless broadband services provided by wireless carriers.

Cavell, Mertz & Associates, Inc. is an engineering consulting firm that provides many technical services to TV and radio broadcasters particularly with respect to transmitter plant design. Our firm has assisted many TV stations in the design, supervision, and construction of interim and final TV facilities during the digital transition. Further, a major segment of our work effort consisted of channel change proposals and improvements to coverage.

The Commission has proposed three options for evaluating existing stations that are repacked to new channels. The first option proposes maintaining the existing coverage both in area and total population currently served with a potential incremental increase in interference population limited to 0.5 percent. The interference population location under this proposal can be shifted so that persons that now receive interference-free service may not be able to get the same interference-free service after the repacking. The second option proposes maintaining the same coverage area and avoids shifting the location of the interference population. Here again, any incremental increase in interference population is limited to 0.5 percent. The third option calls for increasing the *de minimis* interference level to 2 percent new interference for stations that did not interfere with one another as of February 22, 2102.

The Commission believes that permitting increases in interference populations by 2 percent would provide it with added flexibility in the shifting of stations to their new channel assignments. While this may be true in some instances, we believe that a 2 percent increase in interference population is far too high for a permanently assigned facility. A 2 percent new population interference level was employed during the digital transition when stations were

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assigned a second, temporary digital channel to be employed until the end of the transition period. At that time, TV spectrum extended to Channel 69 (800 to 806 MHz). All post transition digital TV facilities were ultimately required to limit new interference to 0.5 percent over that of the allotment table facilities. With the upcoming repacking, potentially severe spectrum limitations could limit the integrity of the over-the-air transmission medium which must be maintained to ensure service to the public. Since new permanent TV facilities will be assigned by the repacking activities, a new interference limit of 0.5 percent should be employed in the creation of the new allotment tables.

The Commission has proposed to carry over a station's directional antenna pattern from the old channel to the new. However, many directional antenna patterns were selected to mitigate interference concerns on the current channel. Such concerns may not exist on a prospective new channel. In determining any new channel assignment, consideration should be given to employing a simple non-directional antenna as a starting point. We believe that the automatic use of "replication" antenna patterns that match the existing coverage area in determining new allotments may cause a reduction in interference-free population. The NPRM states that the Commission considers a reduction in the station's total coverage area of two percent to be *de minimis*. We disagree. A two percent decrease in area could be potentially damaging to a station's off-air signal coverage.

The Commission has also proposed that a reduction in population of 0.5 percent would be considered acceptable since the "Commission treated 0.5 percent as "no new interference" because 0.5 percent is equivalent to zero when rounded to an integer value"<sup>1</sup>. This is a misquotation of what was said the Third Periodic Review Notice of Proposed Rulemaking<sup>2</sup>. In that document, the Commission proposed limitations on what it considered acceptable levels of interference. Interference levels of 0.5 percent or lower would be considered by the Commission as rounded to zero or acceptable. A new interference level in excess of 0.5 percent would be considered by the Commission to be rounded to 1 percent or unacceptable. Thus, defining the limit for new interference level the Commission desired to employ. The Third Periodic Review<sup>3</sup> set 0.5 percent new interference as an absolute limit over facilities in the DTV Table Appendix B. We believe that the Commission should consider setting an initial goal of zero percent new interference when determining the new repacking assignments to maximize coverage on repacked channels. As the band becomes more crowded, we agree that an absolute limit of 0.5 percent new interference may need to be employed.

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<sup>1</sup> See *In the Matter of Expanding Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Notice of Proposed Rulemaking, Docket No. 12-268, paragraph 103.

<sup>2</sup> See *Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, Notice of Proposed Rulemaking, MB Docket No. 07-91, paragraph 106.

<sup>3</sup> See *Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, Report and Order, MB Docket No. 07-91, paragraph 155.

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While there is significant cable and satellite carriage in most markets of over-the-air TV signals, there are still those that rely solely on over-the-air TV transmission for news and information. Many of these people do not have internet access, don't want it, or are unable to afford it. Over-the-air TV transmissions are also valuable during weather emergencies when cable and satellite systems fail due to power outages. The public should be able to rely on the free TV station coverage they have become accustomed to.

The Commission proposes in the NPRM to limit the construction permit period from three years to one and one half years. We believe that this shorter construction time period is completely inadequate. Commission Staff justifies the shorter than customary construction period based on their perception that TV stations that constructed their final facilities after the June 9, 2009 transition date did so within a year's time. This perception ignores the realities of the current marketplace, or the fact that changing a TV station's channel will likely require a change in antenna system (since antennas are built to operate on a specific narrow range of frequencies), transmitter exciter, and in some cases, transmitters or transmitter amplifiers, and transmission line.

The television antenna, transmission line, and transmitter manufacturing efficiencies that existed in 2009 do not exist today. Over past three and one half years, many transmitter and antenna manufacturers have incurred staff reductions due to the economic slowdown and lack of recurring business because TV stations have hesitated, in recent years, to invest in transmitter plant improvements due to uncertainty created by the National Broadband Plan and the unknowns surrounding any subsequent implementation. Few improvements in TV facilities have taken place since full service stations are only protected to licensed facilities that existed as of February 22, 2012. Even if TV broadcasters could have made improvements as is envisioned for Class A facilities<sup>4</sup>, such a huge investment would not seem prudent given the uncertainties of the upcoming auction process.

Further, efficient band repacking will require (essentially) co-location of TV transmitting facilities, potentially necessitating antenna relocation, new community tower construction or existing tower strengthening. This will potentially contribute to additional delays, as there are fewer skilled companies that can complete these tasks than there were during the digital transition.

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<sup>4</sup> The NPRM proposes to permit Class A stations to upgrade their facilities since the LPTV transition has not yet been completed. Class A stations, unlike full service TV stations, can upgrade facilities. Protection will be extended to those facilities that are either licensed or have filed a license application as of the reverse auction start date.

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We believe that, at the very least, the three year construction period should be maintained. Consideration should be given for the authorization of extensions above and beyond the three year period for construction permits, should additional time be needed, and particularly for complications such as zoning issues, construction crew shortages, and problems with equipment availability.

The Spectrum Act authorizes a three year period (starting at the end of the forward auction) for the reimbursement of funds. We believe that the Commission's reduced construction time expectations will be difficult to meet under the current economic conditions and that the Commission should ask Congress for an extension of the reimbursement time period due to the additional time that will be needed by some stations.

The wireless companies that successfully bid on and are ultimately awarded new licenses in the new 600 MHz band should also be required to construct their new facilities within a limited period, perhaps one and one half years. If the TV spectrum is so valuable to the wireless companies that broadcasters are being forced into a new "transition" so soon after the last, then the beneficiaries of this new transition should also be required to be aggressive with their construction.

The Spectrum Act requires reimbursement of costs for the involuntary change of station channel. TV stations do not fall into the category of "one size fits all" when it comes to design. Each individual station encounters a unique series of challenges when changing channel or entering into a channel sharing agreement with another station. The Commission should construct some methodology to define the legitimate costs to be paid, based on some pre-determined standards. In instances in which funds are advanced to stations, a method for providing any necessary additional funds or the return of unused funds is required for accountability. During prior relocation projects, the newly-entering corporate entity was responsible for reimbursing or advancing funds to the spectrum incumbents. Since there is no such an entity in this case, the FCC will need to determine itself how to fulfill that function.

Respectfully submitted:

A handwritten signature in dark ink, appearing to read "Richard H. Mertz", is written over a light blue horizontal line.

Richard H. Mertz  
Cavell, Mertz & Associates, Inc.  
7732 Donegan Drive  
Manassas, Virginia 20109